JAECHOUL LEE

November 6, 2020

Department of Mathematics
Boise State University
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Research Interests

Theory and methods for time series analysis, Application of extreme value theory in climatology, Time-varying coefficient dynamic regression models, Algorithms and methods for large and big data, Interdisciplinary research on range management and epidemiology.

Education

Ph.D. (Statistics), 8/2003, The University of Georgia, U.S.A.

M.S. (Statistics), 2/1998, Korea University, South Korea.

B.S. (Applied Statistics), 2/1994, Korea University, South Korea.

Academic Employment

8/2017 – Present: Professor, Department of Mathematics, Boise State University.

8/2009 – 7/2017: Associate Professor, Department of Mathematics, Boise State University.

8/2003 – 7/2009: Assistant Professor, Department of Mathematics, Boise State University.

Publications

Published in Refereed Journals:

Lee, M.[1] and **Lee**, **J**. (2020) Trend and return level of extreme snow events in New York City. *The American Statistician*, 74, 282–293.

Lee, **J**., Lund, R., Woody, J., and Xu, Y. (2020) Trend assessment for daily snow depths with changepoint considerations. *Environmetrics*, 31, e2580.

Clark, P. E., Nielson, R. M., **Lee**, **J**., Ko, K., Johnson, D. E., Ganskopp, D. C., Chigbrow, J., Pierson, F. B., and Hardegree, S. P. (2017) Prescribed fire effects on activity and movement of cattle in mesic sagebrush steppe. *Rangeland Ecology & Management*, 70, 437–447.

Ashouri, H., Sorooshian, S., Hsu, K., Bosilovich, M. G., **Lee**, **J**., Wehner, M. F., and Collow, A. (2016) Evaluation of NASA's MERRA precipitation product in reproducing the observed trend and distribution of extreme precipitation events in the United States. *Journal of Hydrometeorology*, 17, 693–711.

Lee, **J**., Dini, A.[2], and Negri, W.[2] (2016) An efficient generalized least squares algorithm for periodic trended regression with autoregressive errors. *Numerical Algorithms*, 71, 59–75.

[1] Lee, M. is a PhD in Computing student and a lecturer, Department of Mathematics, Boise State University.
[2] Dini, A. and Negri, W. were undergraduate students, Department of Civil Engineering, Boise State University.

Clark, P. E., **Lee**, **J**., Ko, K., Nielson, R. M., Johnson, D. E., Ganskopp, D. C., Pierson, F. B., and Hardegree, S. P. (2016) Prescribed fire effects on resource selection by cattle in mesic sagebrush steppe. Part 2: Mid-summer grazing. *Journal of Arid Environments*, 124, 398–412.

Hughes, T. A. C.[3] and **Lee**, **J**. (2015) A new test for short memory in long memory time series. *The American Statistician*, 69, 182–190.

Lee, **J**., Li, S., and Lund, R. (2014) Trends in extreme U.S. temperatures. *Journal of Climate*, 27, 4209–4225.

Clark, P. E., **Lee**, **J**., Ko, K., Nielson, R. M., Johnson, D. E., Ganskopp, D. C., Chigbrow, J., Pierson, F. B., and Hardegree, S. P. (2014) Prescribed fire effects on resource selection by cattle in mesic sagebrush steppe. Part 1: Spring grazing. *Journal of Arid Environments*, 100–101, 78–88.

Lee, **J**. and Lund, R. (2012) A refined efficiency rate for ordinary least squares and generalized least squares estimators for a linear trend with autoregressive errors. *Journal of Time Series Analysis*, 33, 312–324.

Lee, **J**. and Ko, K. (2009) First-order bias correction for fractionally integrated time series. *The Canadian Journal of Statistics*, 37, 476–493.

Lee, **J**. (2009) A reformulation of weighted least squares estimators. *The American Statistician*, 63, 49–55.

Ko, K., **Lee**, **J**., and Lund, R. (2008) Confidence intervals for long memory regressions. *Statistics & Probability Letters*, 78, 1894–1902.

Lee, **J**. and Lund, R. (2008) Equivalent sample sizes in time series regressions. *Journal of Statistical Computation and Simulation*, 78, 285–297.

Lee, **J**. and Ko, K. (2007) One-way analysis of variance with long memory errors and its application to stock return data. *Applied Stochastic Models in Business and Industry*, 23, 493–502.

Lee, **J**. and Lund, R. (2004) Revisiting simple linear regression with autocorrelated errors. *Biometrika*, 91, 240–245.

Park, Y. S. and **Lee**, **J**. (1996) A mixed randomized response technique. *Journal of the Korean Statistical Society*, 25, 39–48.

In Revision:

Lee, M.[1] and **Lee**, **J**. Trend analysis of extreme coastal sea levels from a semi-global tide gauge data set. *Journal of the Royal Statistical Society – Series C*.

In Preparation:

Lee, **J**. and Dey, T. Data-adaptive estimation for structural changes in log-linear models.

Lee, **J**., Lund, R., Woody, J., and Dyer, J. A statistical analysis of daily snow depth trends in North America.

Lee, **J**. and Bossart, H.[4] ESS multiple comparison methods for long memory processes: Application to US stock volatilities.

Ocker, R. M.[5] and **Lee**, **J**. A new stochastic parameter regression model for nonstationary long memory responses.

Paquin, M.[6] and **Lee**, **J**. Evaluation of PERSIANN-CDR product in reproducing observed seasonal means

[3]Hughes, T. A. C. was a graduate student, Department of Mathematics, Boise State University.
[4]Bossart, H. is a HERC fellowship undergraduate researcher and student, Department of Mathematics, Boise State University.
[5]Ocker, R. was a graduate student, Department of Mathematics, Boise State University.
[6]Paquin, M. was a undergraduate student, Department of Mathematics, Boise State University.

and extreme precipitation trends.

Canan-McGlone, B.[7] and **Lee**, **J**. A stochastic parameter regression approach for time-varying relationship between gold and silver prices.

Lee, **J**. and Agao, J.[8] A fast least squares algorithm for large periodic data.

Lee, **J**. and Balstad, R.[9] A seasonal analysis of United States extreme precipitation.

Lee, **J**. and Knapp, R.[10] A response of streamflows to temperature changes in the Pacific Northwest.

Lee, **J**. A hybrid model for sensitive surveys: direct questioning and nonrandomized response.

Grants

Awarded:

Lee, **J**. [Principal Investigator] *Short Memory in Long Memory Time Series*. National Science Foundation, DMS Statistics Program, Award ID number: DMS-1107225, $100,000, 9/01/2011–8/31/2014, *Awarded*.

Sub-Awards:

Lee, **J**. [Faculty Mentor] *ESS multiple comparison methods for long memory processes: Application to US stock volatilities*. Idaho State Board of Education Higher Education Research Council (HERC) Fellowship, $3,000 student salary, 1/2020–5/2020, *Awarded*.

Lee, **J**. [Faculty Mentor] *Evaluation of PERSIANN-CDR product for seasonal mean and extreme precipitation trends*. Idaho NSF MURI Program, student salary and $500 research expense, 5/2017–8/2017, *Awarded*.

Lee, **J**. [Faculty Mentor] *U.S. mean and extreme precipitation trends in PERSIANN-CDR, CPC, and USHCN data*. Idaho NSF MURI Program, student salary and $500 research expense, 1/2017–5/2017, *Awarded*.

Lee, **J**. [Faculty Mentor] Idaho NSF STEP UG Research, student salary and $1,000 research expense, 8/2013–5/2014, *Awarded*.

Lee, **J**. [Faculty Mentor] Idaho NSF STEP UG Research, student salary and $1,000 research expense, 8/2012–5/2013, *Awarded*.

Lee, **J**. [Faculty Mentor] *Temperature and River Water Trends in Idaho*. Idaho NSF EPSCoR REU, $5,000 student salary, 5/2012–8/2012, *Awarded*.

Travel Awards

BSU COAS Travel Award, $400, *Joint Statistical Meetings*, Denver, CO, 8/2019.

BSU COAS Travel Award, $600, *The International Environmetrics Society*, Guanajuato, Mexico, 7/2018.

BSU COAS Travel Award, $360, *Joint Statistical Meetings*, Baltimore, MD, 8/2017.

BSU COAS Travel Award, $400, *Joint Statistical Meetings*, Seattle, WA, 8/2015.

BSU CTL Travel Award, $1,000, *Joint Statistical Meetings*, Boston, MA, 8/2014.

KSEA Travel Award, $420 and lodging, *KSEA ProDeW 2014*, Chicago, IL, 3/2014.

BSU COAS Travel Award, $600, *Joint Statistical Meetings*, Montréal, QC, Canada, 8/2013.

[7] Canan-McGlone, B. was a graduate student, Department of Mathematics, Boise State University.
[8] Agao, J. was an undergraduate student, Department of Mathematics, Boise State University.
[9] Balstad, R. was an undergraduate student, Department of Mathematics, Boise State University.
[10] Knapp, R. was a undergraduate student, Department of Mathematics, Boise State University.

BSU COAS Travel Award, $400, *Joint Statistical Meetings*, Miami Beach, FL, 8/2011.

BSU CTL Travel Award, $1,000, *Joint Statistical Meetings*, Vancouver, BC, Canada, 8/2010.

University of Georgia Travel Award, $275, *Symposium on New Directions in Asymptotic Statistics*, Athens, GA, 5/2009.

American Statistical Association Travel Award, $450, *ASA/NISS Technical Writing Workshop at Joint Statistical Meetings*, Denver, CO, 8/2008.

BSU COAS Travel Award, $400, *Joint Statistical Meetings*, Denver, CO, 8/2008.

University of Florida Travel Award, $400 and lodging, *10th Annual Winter Workshop on Bayesian Model Selection and Objective Methods*, Gainesville, FL, 1/2008.

University of Florida Travel Award, $350 and lodging, *9th Annual Winter Workshop on Environmental and Environmental Health Statistics*, Gainesville, FL, 1/2007.

NASA ISGC Travel Award, $200, *Research Symposium*, Moscow, ID, 10/2006.

BSU COAS Travel Award, $300, *Joint Statistical Meetings*, Seattle, WA, 8/2006.

Rice University Travel Award, $425, *The 2nd Erich L. Lehmann Symposium*, Houston, TX, 5/2004.

NSF Travel Award, *Summer Research Conference in Statistics: Statistics in Genetics, Molecular Biology, and Bioinformatics*, Jekyll Island, GA, 6/2003.

SAMSI/GSP Travel Award, *SAMSI/GSP Workshop on Spatio-Temporal Modeling*, Boulder, CO, 6/2003.

Presentations and Seminars

[INVITED TALK] Trend assessment for climate time series with changepoint considerations. *Graduate Colloquium*, Department of Statistics and Actuarial Science, Northern Illinois University, 9/2020.

[LIGHTNING TALK] Trend assessment for daily snow depths with changepoint considerations. *COMPUT 601*, Computing PhD Program, Boise State University, Boise, ID, 9/2020.

[SEMINAR TALK] Trend assessment for climatological time series. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 11/2019.

[SESSION TALK] Trend assessment for daily snow depths with changepoint considerations. *SIAM-PNW*, Seattle, WA, 10/2019.

[CONTRIBUTED POSTER] Trend assessment for daily snow depths with changepoint considerations. *Joint Statistical Meetings*, Denver, CO, 7/2019.

[CONTRIBUTED TALK] Trend assessment for daily snow depths with changepoint considerations. *Symposium on Data Science and Statistics*, Bellevue, WA, 5/2019.

[INVITED TALK] Extreme U.S. temperature changepoints and trends. *The International Environmetrics Society*, Guanajuato, Mexico, 7/2018.

[CONTRIBUTED TALK] An efficient generalized least squares algorithm for periodic regression with autoregressive errors. *Symposium on Data Science and Statistics*, Reston, VA, 5/2018.

[CONTRIBUTED TALK] A return level analysis of the January 2016 Blizzard in New York City. *Joint Statistical Meetings*, Baltimore, MD, 8/2017.

[CONTRIBUTED POSTER] Evaluation of PERSIANN-CDR product in reproducing observed seasonal mean and extreme precipitation trends. *Idaho Conference on Undergraduate Research*, Boise State University, Boise, ID, 7/2017.

[SEMINAR TALK] An efficient GLS algorithm for periodic regression with autoregressive errors. *Computational Science and Engineering Seminar*, Boise State University, Boise, ID, 3/2017.

[SEMINAR TALK] Trend estimation for climatological extremes. *Math Department Colloquium*, Department of Mathematics, Boise State University, Boise, ID, 9/2016.

[SEMINAR TALK] Trend analysis of extremes in climatology. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 10/2015.

[CONTRIBUTED TALK] An efficient GLS algorithm for periodic regression with autoregressive errors. *Joint Statistical Meetings*, Seattle, WA, 8/2015.

[CONTRIBUTED POSTER] Trends in extreme United States temperatures. *NCAR-STATMOS Summer School in Data Assimilation*, NCAR, Boulder, CO, 5/2015.

[CONFERENCE POSTER] A seasonal analysis of extreme precipitation trends in the contiguous United States. *Undergraduate Research & Scholarship Conference*, Boise State University, Boise, ID, 4/2015.

[INVITED TALK] Trends in extreme United States temperatures. *Statistics Seminar*, Department of Mathematical Sciences, University of Nevada, Las Vegas, NV, 9/2014.

[SEMINAR TALK] Extreme value theory and its application in climatology. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 9/2014.

[CONTRIBUTED TALK] A long memory stochastic parameter regression. *Joint Statistical Meetings*, Boston, MA, 8/2014.

[CONFERENCE POSTER] An efficient generalized least squares algorithm for periodic time series. *Undergraduate Research & Scholarship Conference*, Boise State University, Boise, ID, 4/2014.

[SEMINAR TALK] An overview of extreme value theory and trends in extreme United States temperatures. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 10/2013.

[CONTRIBUTED TALK] Trends in extreme United States temperatures. *Joint Statistical Meetings*, Montréal, QC, Canada, 8/2013.

[CONFERENCE POSTER] Generalized least squares solution. *Undergraduate Research & Scholarship Conference*, Boise State University, Boise, ID, 4/2013

[CONTRIBUTED TALK] Trends in extreme United States temperatures. *Interface*, Orange, CA, 4/2013.

[SEMINAR TALK] Time series analysis and its applications: A 50-minute overview. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 10/2012.

[CONTRIBUTED TALK] A new portmanteau test for short memory in long memory processes. *Joint Statistical Meetings*, San Diego, CA, 8/2012.

[CONFERENCE POSTER] Temperature and river water level trends in the Northwest. *Summer Undergraduate Research Conference*, Boise State University, Boise, ID, 7/2012

[CONTRIBUTED TALK] A new efficiency rate for OLS and GLS estimators in time series regressions. *Joint Statistical Meetings*, Miami Beach, FL, 8/2011.

[SEMINAR TALK] Introduction to time series analysis. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 11/2010.

[CONTRIBUTED TALK] Equivalent sample sizes in time series regressions. *Joint Statistical Meetings*, Vancouver, BC, Canada, 8/2010.

[INVITED TALK] A reformulation of weighted least squares estimators in autocorrelated regression. *Snake River Chapter of the American Statistical Association Annual Meeting*, Boise, ID, 6/2010.

[CONFERENCE POSTER] First-order bias correction for fractionally integrated time series. *Workshop on Stochastic Dynamics*, SAMSI, Research Triangle Park, NC, 9/2009.

[CONTRIBUTED TALK] First-order bias correction for fractionally integrated time series. *Joint Statistical Meetings*, Washington, DC, 8/2009.

[CONTRIBUTED TALK] First-order bias correction for fractionally integrated time series. *Symposium on New Directions in Asymptotic Statistics*, The University of Georgia, Athens, GA, 5/2009.

[SEMINAR TALK] Analysis of autocorrelated data: A 50-minute introduction to time series analysis. *Graduate Student Seminar*, Department of Mathematics, Boise State University, Boise, ID, 10/2008.

[SEMINAR TALK] A reformulation of weighted least squares estimators in autocorrelated regression. *Mathematics Seminar*, Department of Mathematics, Boise State University, Boise, ID, 9/2008.

[CONTRIBUTED TALK] A reformulation of generalized least squares estimators in autocorrelated regression. *Joint Statistical Meetings*, Denver, CO, 8/2008.

[CONFERENCE POSTER] Multiple comparison procedures for long memory processes: Applications to stock volatilities. *10th Annual Winter Workshop on Bayesian Model Selection and Objective Methods*, University of Florida, Gainesville, FL, 1/2008.

[SEMINAR TALK] Long memory analysis of variance model and its application to stock return data. *Mathematics Seminar*, Department of Mathematics, Boise State University, Boise, ID, 10/2007.

[CONFERENCE POSTER] Confidence intervals for long memory regressions. *9th Annual Winter Workshop on Environmental and Environmental Health Statistics*, University of Florida, Gainesville, FL, 1/2007.

[CONFERENCE POSTER] Periodic time series models for United States extreme temperature trends. *NASA Idaho Space Grant Consortium Research Symposium*, University of Idaho, Moscow, ID, 10/2006.

[CONTRIBUTED TALK] Calibrating OLS estimators in linear regression with long memory error. *Joint Statistical Meetings*, Seattle, WA, 8/2006.

[CONTRIBUTED TALK] Periodic time series models for United States extreme temperature trends. *The Second Erich L. Lehmann Symposium*, Rice University, Houston, TX, 5/2004.

[CONTRIBUTED TALK] Periodic time series models for United States extreme temperature trends. *The Fifth IISA Biennial International Conference on Statistics, Probability and Related Areas*, The University of Georgia, Athens, GA, 5/2004.

[CONTRIBUTED POSTER] Revisiting simple linear regression with autocorrelated errors. *Summer Research Conference in Statistics: Statistics in Genetics, Molecular Biology and Bioinformatics*, Jekyll Island, GA, 6/2003.

[CONTRIBUTED TALK] Trends in United States temperature extremes. *SAMSI/GSP Workshop on Spatio-Temporal Modeling*, National Center for Atmospheric Research, Boulder, CO, 6/2003.

[INVITED TALK] Trends in United States temperature extremes. *Statistics Colloquia*, Department of Statistics, The University of Georgia, Athens, GA, 4/2003.

[INVITED TALK] Trends in United States temperature extremes. *Seminar*, Geophysical Statistics Project, National Center for Atmospheric Research, Boulder, CO, 2/2003.

Course Instruction

At Boise State University (8/2003–Present):

FA 2003: MATH 254 (Applied Statist. w/ Computers, 2 Sections)

SP 2004: MATH 254 (Applied Statist. w/ Computers), MATH 361 (Prob. & Statist. I)

FA 2004: MATH 254 (Applied Statist. w/ Computers, 2 Sections)

SP 2005: MATH 254 (Applied Statist. w/ Computers, 2 Sections)

FA 2005: MATH 254 (Applied Statist. w/ Computers), MATH 462/562 (Prob. & Statist. II)

SP 2006: MATH 254 (Applied Statist. w/ Computers, 2 Sections)

FA 2006: MATH 361 (Prob. & Statist. I, 2 Sections)

SP 2007: MATH 254 (Applied Statist. w/ Computers), MATH 573 (Time Series Analysis)

FA 2007: MATH 254 (Applied Statist. w/ Computers), MATH 361 (Prob. & Statist. I), MATH 496 (Independent Study, 1 student), MATH 593 (Thesis, 1 student), MATH 596 (Independent Study)

SP 2008: MATH 254 (Applied Statist. w/ Computers, 2 Sections), MATH 496 (Independent Study, 1 student), MATH 593 (Thesis, 1 student)

FA 2008: MATH 361 (Prob. & Statist. I), MATH 572 (Comp. Statist.), MATH 590 (Practicum/ Internship, 1 student)

SP 2009: MATH 254 (Applied Statist. w/ Computers), MATH 361 (Prob. & Statist. I), MATH 591 (Project, 1 student)

FA 2009: MATH 254 (Applied Statist. w/ Computers), MATH 573 (Time Series Analysis)

SP 2010: MATH 254 (Applied Statist. w/ Computers), MATH 360 (Engin. Statist.), MATH 593 (Thesis, 1 student)

FA 2010: MATH 361 (Prob. & Statist. I, 2 Sections)

SP 2011: MATH 254 (Applied Statist. w/ Computers), MATH 361 (Prob. & Statist. I)

FA 2011: MATH 361 (Prob. & Statist. I, 2 Sections), MATH 573 (Time Series Analysis), MATH 593 (Thesis, 1 student)

SP 2012: MATH 254 (Applied Statist. w/ Computers), MATH 361 (Prob. & Statist. I, 2 Sections), MATH 593 (Thesis, 1 student)

FA 2012: Sabbatical leave

SP 2013: MATH 596 (Independent Study, 1 student)

FA 2013: MATH 573 (Time Series Analysis), MATH 593 (Thesis, 1 student)

SP 2014: MATH 254 (Intr. to Statist.), MATH 361 (Prob. & Statist. I), MATH 593 (Thesis, 1 student)

FA 2014: MATH 254 (Intr. to Statist.), MATH 462/562 (Prob. & Statist. II), MATH 596 (Independent Study, 1 student)

SP 2015: MATH 361 (Prob. & Statist. I, 2 Sections), MATH 401 (Senior Thesis, 1 student)

FA 2015: MATH 360 (Engin. Statist.), MATH 573 (Time Series Analysis)

SP 2016: MATH 361 (Prob. & Statist. I, 2 Sections), MATH 401 (Senior Thesis, 3 students), MATH 596 (Independent Study, 1 student)

FA 2016: MATH 360 (Engin. Statist.), MATH 462/562 (Prob. & Statist. II), MATH 593 (Thesis, 1 student), MATH 596 (Independent Study, 1 student)

SP 2017: MATH 361 (Prob. & Statist. I, 2 Sections), MATH 401 (Senior Thesis, 1 student), MATH 593 (Thesis, 1 student)

FA 2017: MATH 360 (Engin. Statist.), MATH 401 (Senior Thesis, 1 student), MATH 462/562 (Prob. & Statist. II)

SP 2018: MATH 361 (Prob. & Statist. I), MATH 401 (Senior Thesis, 2 students), MATH 573 (Time Series Analysis)

FA 2018: MATH 360 (Engin. Statist.), MATH 462/562 (Prob. & Statist. II), MATH 593 (Thesis, 1 student)

SP 2019: MATH 360 (Engin. Statist.), MATH 401 (Senior Thesis, 1 student), MATH 471/571 (Data Analysis), MATH 593 (Thesis, 1 student)

FA 2019: MATH 401 (Senior Thesis, 2 students)

SP 2020: COMPUT 693 (Dissertation, 1 student), MATH 401 (Senior Thesis, 1 student), MATH 573 (Time Series Analysis)

FA 2020: COMPUT 693 (Dissertation, 1 student), MATH 360 (Engin. Statist.), MATH 462/562 (Prob. & Statist. II), MATH 593 (Thesis, 1 student)

At The University of Georgia (1/2002–7/2003):

SP 2002: STAT 4210 (Statist. Methods)

FA 2002: STAT 4210 (Statist. Methods)

SP 2003: STAT 4210 (Statist. Methods)

SU 2003: STAT 4230/6230 (Applied Regression Analysis)

Student Supervision

PhD Dissertation Advisor:

Mintaek Lee, *PhD in Computing with Data Science emphasis*. *In Progress*, Boise State University, Fall 2019–Present.

Master's Thesis Advisor:

Timothy A. C. Hughes, *Masters in Mathematics*. Simple tests for short memory in ARFIMA models, Boise State University, Fall 2007–Spring 2008.

Yuguang Ban, *Masters in Mathematics*. Estimating evolutionary rates of exons: A Markov chain Monte Carlo approach, Boise State University, Fall 2008–Summer 2009.

Jason Arnold, (*Incomplete Masters*). Boise State University, Spring 2010.

Birsen Canan-McGlone, *Masters in Mathematics*. A stochastic parameter regression approach for time-varying relationship between gold and silver prices, Boise State University, Fall 2011–Summer 2012.

Rose M. Ocker, *Masters in Mathematics*. A long memory stochastic parameter regression, Boise State University, Spring 2013–Spring 2014.

Mintaek Lee, *Masters in Mathematics*. Trend and return level of extreme snow events in New York City, Boise State University, Summer 2016–Spring 2017.

A.J. Bates, *Masters in Mathematics*. Boise State University, Fall 2018–Summer 2019.

Johanna Marcelia, *Masters in Mathematics*. *In Progress*, Boise State University, Summer 2020–Present.

Graduate Research / Project Supervisor:

Yuguang Ban, *Internship*, MATH 590 (Practicum/Internship). Boise State University, Fall 2008.

Yuguang Ban, *Project*, MATH 591 (Project). Boise State University, Spring 2009.

James Hensley, *Summer Graduate Research Fellowship*, Department of Mathematics, Boise State University, Summer 2010.

Rose M. Ocker, *Summer Graduate Research Fellowship*, Department of Mathematics, Boise State University, Summer 2013.

Rose M. Ocker, *Short-term Research Assistant*, Scentsy, Inc., Summer 2014.

Mintaek Lee, *Summer Graduate Research Fellowship*, Department of Mathematics, Boise State University, Summer 2016.

Johanna Marcelia, *Summer Graduate Research Fellowship*, Department of Mathematics, Boise State University, Summer 2020.

Graduate Thesis Committee Member:

Neill McGrath, *Masters in Mathematics*. Effective sample size in order statistics of correlated data, Boise State University, Spring 2009.

Brian Portugais, *Masters in Civil Engineering*. Dual-state Kalman Filter forecasting and control theory applications for proactive ramp metering, Boise State University, Fall 2013–Summer 2014.

Rob Humphrey, *Masters in Interdisciplinary Studies Program*. Boise State University, Fall 2013–Spring 2015.

Christian Sprague, *Masters in Economics*. Resilience and the U.S. labor market: A cross-scale analysis on the role of industrial diversity and specialization, Boise State University, Fall 2017–Summer 2018.

Samuel Anyaso-Samuel, *Masters in Mathematics*. Dynamic sampling versions of popular SPC charts for big data analysis, Boise State University, Fall 2018–Spring 2019.

Undergraduate Research Supervisor:

Jason Arnold, *Undergraduate McNair Scholar*, Boise State University, Fall 2007–Spring 2008.

Rachael Knapp, *Idaho NSF EPSCoR REU Researcher*, Boise State University, Summer 2012.

William Negri, *Idaho NSF STEP UG Researcher*, Boise State University, Fall 2012–Spring 2013.

Anthony Dini, *Idaho NSF STEP UG Researcher*, Boise State University, Fall 2013–Spring 2014.

Maria Paquin, *Idaho NSF MURI Researcher*, Boise State University, Spring 2017–Summer 2017.

Holly Bossart Paquin, *Idaho State Board of Education HERC UG Researcher*, Boise State University, Spring 2020.

Undergraduate Senior Thesis Advisor:

Rachael Balstad, *Senior Thesis*, MATH 401 (Senior Thesis), A seasonal analysis of extreme precipitation trends in the contiguous United States, Boise State University, Spring 2015; *Undergraduate Researcher*, Summer 2015.

Robert Huelsenbeck, *Senior Thesis*, Image steganography data analysis, Boise State University, Spring 2016.

Zac Peake, *Senior Thesis*, Predicting daily weather of specific locations lacking data, Boise State University, Spring 2016.

Mac Stannard, *Senior Thesis*, Language acquisition, Boise State University, Spring 2016.

Christian Sprague, *Senior Thesis*, Detecting Granger-causality in unemployment data within a network of MSAs, Boise State University, Fall 2016.

Kaycie Upson, *Senior Thesis*, Stochastic processes: review of theory, applications, and methods. Boise State University, Spring 2017.

Maria Paquin, *Senior Thesis*, Evaluation of PERSIANN-CDR product in reproducing observed seasonal means and extreme precipitation trends, Boise State University, Fall 2017.

Jonathon Agao, *Senior Thesis*, A linear time algorithm for computing generalized least square estimators under periodic regression with autoregressive errors, Boise State University, Spring 2018.

Lauren Butler, *Internship*, Boise State University, Spring 2018.

Anna Zigray, *Senior Thesis*, Idaho female farm operators, Boise State University, Spring 2018.

Ryan Porter, *Senior Thesis*, Changepoints in piecewise linear regression splines, Boise State University, Spring 2019.

Tabitha Brodt, *Senior Thesis*, Wealth disparity in modern monetary policies, Boise State University, Fall

2019.

Bridgette Delight, *Senior Thesis*, Analysis of job influence on Boise house prices, Boise State University, Fall 2019.

Holly Bossart, *Senior Thesis*, Effective sample size calibrated multiple comparison methods for long memory US stock volatilities, Boise State University, Spring 2020.

Independent Study Advisor:

Jason Arnold, MATH 496 (Independent Study, 3 credits). Boise State University, Fall 2007, Spring 2008.

Timothy A. C. Hughes, MATH 596 (Independent Study, 3 credits). Boise State University, Fall 2007.

Rose M. Ocker, MATH 596 (Independent Study, 3 credits). Boise State University, Spring 2013.

Heather Wilber, MATH 596 (Independent Study, 1 credit). Boise State University, Fall 2014.

Mintaek Lee, MATH 596 (Independent Study, 3 credits). Boise State University, Spring 2016.

Mintaek Lee, MATH 596 (Independent Study, 1 credit). Boise State University, Fall 2016.

Major Service

Department:

Tenure & Promotion Progress Recommendation Committee, 8/2020–Present.

Applied Math Curriculum Committee, 8/2020–Present.

Chair Selection Committee, 8/2020–Present.

Outcome Assessment Committee, 8/2018–7/2019.

Undergraduate Internship Coordinator, 8/2018–7/2019.

Tenure & Promotion Progress Review Committee & Chair, 8/2017–5/2019; 8/2018–5/2019.

Statistics Committee, 8/2006–Present.

Graduate Program Committee, 1/2008–Present.

Graduate Curriculum Change Discussion Group, 1/2008–5/2017.

MATH 254 Discussion Group, 1/2013–5/2017.

Salary and Professional Assignment Committee, 1/2011–5/2011, 1/2016-5/2017.

Visiting Faculty Search Committee, 5/2015.

Interim Graduate Coordinator, 7/2013–6/2014.

MS in Mathematics Program Prioritization Review, 1/2014–3/2014.

Scholarship Committee, 8/2005–7/2013.

Applied Mathematics Committee, 2003–2012.

Statistics Faculty Search Committee, 8/2003–5/2004, 8/2011–5/2012.

Workload Policy Committee, 8/2010–5/2011.

Applied and Computational Math Hiring Committee, 8/2009–5/2010.

Strategic Plan Steering Committee, 8/2008–5/2009.

College:

Ph.D. in Computing Admission Committee, Graduate College, 8/2017–7/2019.

Associate Graduate Faculty, Graduate College, 8/2005–Present.

Transfer & Non-Traditional Students Advising, College of Arts and Sciences, 6/2016, 8/2016, 7/2017, 6/2018.

Tenure & Promotion Committee, College of Arts and Sciences, 8/2014–5/2016.

Ph.D. in Computing, Computational Science and Engineering (CSE) Discussion Group, 2/2015–5/2016.

Freshmen Orientation Advising, College of Arts and Sciences, 7/2006, 7/2007, 6/2016.

Mini-Development Grant Committee, College of Arts and Sciences, 8/2003–5/2004.

University:

Foundation Scholars Committee–Service, Boise State University, 8/2006–5/2012.

Academic Standards Committee, Boise State University, 8/2006–5/2010.

Professional Activities

National Science Foundation:

Panel: 11/2015–1/2016, 11/2016–1/2017, 11/2019–1/2020

Reviewer: 11/2018–2/2019

Journal Refereeing:

2005: *Applied Stochastic Models in Business and Industry*

2010: *Mathematical Reviews*

2011: *Mathematical Reviews*, *European Journal of Operational Research*

2013: *IEEE Transactions on Geoscience and Remote Sensing*, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, *Journal of Climate*, *Journal of Hydrometeorology*

2014: *Environmental and Ecological Statistics*, *IEEE Transactions on Parallel and Distributed Systems*

2015: *Journal of Applied Meteorology and Climatology*, *Water*, *Journal of Climate*

2016: *International Journal of Climatology*

2017: *Water*, *Journal of Statistical Computation and Simulation*

2018: *Journal of Applied Meteorology and Climatology*, *Rangeland Ecology & Management*, *Environmental and Ecological Statistics*, *Environmetrics*

2019: *Statistical Methods in Medical Research*

2020: *Environmental and Ecological Statistics*, *Annals of Applied Statistics*

Book Reviewing:

2005: *Introductory Statistics*, 2nd edition, Ross, S. M., Elsevier.

2013: *Introduction to the Practice of Statistics*, 8th edition, Moore, D. S., MaCabe, G. P., and Craig, B. A., W. H. Freeman.

2015: *Introduction to Mathematical Statistics*, 7th edition, Hogg, R. V., McKean J. W., and Craig, A. T., Pearson.

Memberships:

Member: American Statistical Association (ASA), 11/2002–Present.

Member: Korean-American Scientists and Engineers Association (KSEA), 11/2011–Present.

Member: Korean International Statistical Society (KISS), 2/2019–Present

Member: Interface, 3/2006–2/2007.

Developmental Workshops and Education Courses:

Flexible Teaching for Student Success Institute, Center for Teaching and Learning, Boise State University, 7–8/2020.

Designing for Student Success FLC, Center for Teaching and Learning, Boise State University, 1–4/2020.

Longitudinal Data Analysis using Discrete and Continuous Responses, SAS Live Web Course, 2/2020.

Understanding and Tackling Measurement Error: A Whistle Stop Tour of Modern Practical Methods. Joint Statistical Meetings, Denver, CO, 7/2019.

Making Sense of Noisy Data with Measurement Error or/and Missing Observations. Joint Statistical Meetings, Denver, CO, 7/2019.

Statistical Network Analysis and Applications in Biology. Joint Statistical Meetings, Denver, CO, 7/2019.

Big Data, Data Science and Deep Learning for Statisticians. ASA Snake River Chapter, University of Idaho–McCall Outdoor Science School, McCall, ID, 5/2019.

A Variety of Mixed Models: Linear, Generalized Linear, and Nonlinear. Conference on Statistical Practice, Portland, OR, 2/2018.

Statistical Learning Methods in R. Conference on Statistical Practice, Portland, OR, 2/2018.

POGIL Workshop, BSU, Boise, ID, 6/2016.

Modern Bayesian Tools for Time Series Analysis. R/Finance, University of Illinois at Chicago, Chicago, IL, 5/2016.

Research Computing Days, BSU OIT, Boise, ID, 2/2016.

Statistical Analysis of Financial Data with R. Joint Statistical Meetings, Seattle, WA, 8/2015.

Functional Data Analysis – Methods and Computing. Joint Statistical Meetings, Seattle, WA, 8/2015.

Bayesian Structural Time Series. Joint Statistical Meetings, Seattle, WA, 8/2015.

The Snake River Chapter of the American Statistical Association Meeting and Workshop for Analysis of Big Data, Idaho State University, Meridian, ID, 5/2015.

NCAR-STATMOS Summer School in Data Assimilation, NCAR, Boulder, CO, 5/2015.

Workshop for the Instant Feedback-Assessment Technique (IF-AT) forms, Boise State University, Boise, ID, 5/2015.

NSF Proposal Workshop, Boise State University, Boise, ID, 10/2014.

Q&A Session: How to get funding for your research via the Cooperative Ecosystem Studies Unit (CESU). Boise State University, Boise, ID, 10/2014.

Bayesian Dynamic Models: Time Series Analysis & Forecasting. Joint Statistical Meetings, Boston, MA, 8/2014.

Hierarchical Bayesian Modeling and Analysis for Spatial Data. Joint Statistical Meetings, Boston, MA, 8/2014.

KSEA ProDeW 2014, Hilton Rosemont/Chicago O'Hare, Chicago, IL, 3/2014.

Mobile Learning Summer Institute, Boise State University, Boise, ID, 8/2013.

Applied Bayesian Nonparametric Mixture Modeling. Joint Statistical Meetings, Montréal, QC, Canada, 8/2013.

Foundations and Recent Advances in Longitudinal and Incomplete Data and in Joint Modeling. Joint Statistical Meetings, Montréal, QC, Canada, 8/2013.

Proposal Development Workshop: Deep Strategy and Tactics, Boise State University, Boise, ID, 5/2012.

Write Winning NIH Grant Proposals, Boise State University, Boise, ID, 5/2012.

Semiparametric Theory and Missing Data. Joint Statistical Meetings, Miami Beach, FL, 8/2011.

Advanced Topics in Survey Sampling. Joint Statistical Meetings, Miami Beach, FL, 8/2011.

Faculty Advising Institute, Boise State University, Boise, ID, 3/2011.

Bayesian Ecology: Hierarchical Modeling for Ecological Processes. Joint Statistical Meetings, Vancouver, BC, Canada, 8/2010.

Practical Bayesian Computation. Joint Statistical Meetings, Vancouver, BC, Canada, 8/2010.

Wavelets in the Real World. Joint Statistical Meetings, Vancouver, BC, Canada, 8/2010.

NSF Day at Boise State University, Boise State University, Boise, ID, 4/2010.

ASA/NISS Technical Writing Workshop, Joint Statistical Meetings, Denver, CO, 8/2008.

Computational Statistics. Joint Statistical Meetings, Denver, CO, 8/2008.

Sample-size Analysis in Study Planning: Concepts and Issues. ASA Snake River Chapter, Micron Technology Inc., Boise, ID, 5/2008.

SENCER: Science Education for New Civic Engagements and Responsibilities. Center for Teaching and Learning, Boise State University, Boise, ID, 5/2008.

Faculty Advising Institute, Boise State University, Boise, ID, 10/2006.

Multi-response Permutation Procedures & Semiparametric Regression. ASA Snake River Chapter, Micron Technology Inc., Boise, ID, 6/2006.